CLAIMS

Claim 1 (Previously Amended/Allowed)

A carburetor, comprising:

a metallic carburetor body having a fuel and air mixing passage through which a fuel and air mixture is delivered to an engine;

a throttle valve assembly movable in the fuel and air mixing passage between idle and wide open positions, said valve assembly having a polymeric shaft rotatable relative to the carburetor body;

a separate polymeric cam body connected to the shaft for rotation in unison with the shaft;

a separate valve head in communication with the fuel and air mixing passage and carried by the shaft for rotation in unison with the shaft;

the shaft being journalled for rotation in integral bores in one portion of the carburetor body;

the cam body being configured to be connected to an actuator wire for movement of the shaft and valve head between the idle and wide open positions; and

at least one stop carried by the carburetor body and engageable by the cam body to limit rotation of the valve assembly to at least one of the idle position and wide open throttle position of the valve head of the valve assembly.

Claim 2 (Original/Allowed)

The carburetor of claim 1 wherein the shaft has an elongate slot formed therethrough and the valve head is carried by the shaft within the slot.

Claim 3 (Previously Amended/Allowed)

The carburetor of claim 2 wherein the valve head has raised tabs which are engageable with the shaft to retain the valve head in the slot

Claim 4 (Original/Allowed)

The carburetor of claim 3 wherein the tabs define stop surfaces with at least one stop surface disposed on each of a pair of opposed sides of the shaft in assembly with the distance between the stop surfaces on opposed sides of the shaft being greater than the diameter of the shaft.

Claim 5 (Original/Allowed)

The carburetor of claim 2 wherein the valve head is generally circular and the slot has a length greater than the diameter of the valve head so that the valve head can shift within the slot generally axially relative to the shaft.

Claim 6 (Original/Allowed)

The carburetor of claim 5 wherein the length of the slot is at least equal to the diameter of the fuel and air mixing passage with the slot spanning the entire fuel and air mixing passage.

Claim 7 (Previously Amended/Allowed)

The carburetor of claim 2 wherein the elongate slot in the shaft has a length greater than the width of the portion of the valve head received in the slot and greater than the width of the mixing passage at the location where the shaft extends across the mixing passage.

Claim 8 (Original/Allowed)

The carburetor of claim 1 wherein the cam body is pressed onto the shaft and is retained on the shaft by an interference fit.

Claim 9 (Original/Allowed)

The carburetor of claim 1 wherein the shaft has a flat surface and the cam body has at least one shoulder which engages the flat surface of the shaft to prevent relative rotation between the shaft and cam body.

Claim 10 (Original/Allowed)

The carburetor of claim 9 wherein the shaft has another flat surface and the cam body has another shoulder which engages said another flat surface.

Claim 11 (Original/Allowed)

The carburetor of claim 10 wherein the cam body has four spaced apart shoulders with each flat surface engaged by two shoulders.

Claim 12 (Original/Allowed)

The carburetor of claim 1 which also comprises a pair of stops carried by the carburetor body and wherein the cam body has a pair of stops each constructed to engage a separate one of the stops carried by the carburetor body to limit rotation of the valve assembly.

Claim 13 (Previously Amended/Allowed)

A carburetor, comprising:

a carburetor body having a fuel and air mixing passage through which air flows and through which fuel is delivered to an engine;

a valve assembly movable in the fuel and air mixing passage between first and second positions, said valve assembly having a polymeric shaft rotatable relative to the carburetor body;

a polymeric cam body connected to the shaft for rotation with the shaft;

a valve head in communication with the fuel and air mixing passage and carried by the shaft for rotation with the shaft; and

the shaft has a groove formed therein and the cam body has a bore and a tab extending into the bore with the tab constructed and arranged to be received in the groove when the cam body is fully received on the shaft.

Claim 14 (Currently Amended)

A throttle valve assembly for a carburetor comprising:

a carburetor body with a fuel ~~an~~ **and** air mixing passage;

a throttle polymeric shaft rotatably carried by the carburetor body in communication with the fuel and air mixing passage and having a slot formed therethrough between its ends;

a throttle cam body connected to the shaft for co-rotation in unison with the shaft to engage at least one stop carried by the carburetor body to limit rotation of the throttle valve assembly;

a valve head carried by the shaft for rotation in unison with the shaft, in communication with the fuel and air mixing passage and disposed in part in the slot so that rotation of the shaft changes orientation of the valve head relative to the fuel and air mixing passage to control fluid flow through the fuel and air mixing passage; and

the length of the slot through the shaft being greater than the width of the portion of the valve head received in the slot of the shaft and greater than the width of the mixing passage at the location of the shaft in the mixing passage so that the valve head is movable axially relative to the shaft and transversely relative to the mixing passage to center the valve head in the mixing passage.

Claim 15 (Original)

The valve assembly of claim 14 wherein the valve head has at least two spaced apart tabs and when assembled to the shaft at least one of said tabs is disposed on each of a pair of opposed sides of the shaft to retain the valve head in the slot and on the shaft.

Claim 16 (Previously Amended)

The valve assembly of claim 14 wherein the valve head is generally circular and generally flat, and the slot has a length greater than the diameter of the valve head so that the valve head can shift within the slot generally axially relative to the shaft.

Claim 17 (Previously Amended)

The valve assembly of claim 14 wherein the slot spans the entire fuel and air mixing passage, the shaft is journalled for rotation at least in part beyond each end of the slot, a spring is received over the shaft between the cam body and the carburetor body, and a retainer is received on the shaft adjacent an end of the shaft distal from the cam body and adjacent the carburetor body.

Claim 18 (Previously Amended)

The valve assembly of claim 14 wherein the shaft has a flat surface and the cam body has at least one shoulder which engages the flat surface of the shaft to prevent relative rotation between the shaft and cam body.

Claim 19 (Previously Amended)

The valve assembly of claim 14 wherein the cam body is integrally formed with the shaft.

Claim 20 (Previously Amended)

The valve assembly of claim 14 wherein the cam body is pressed onto the shaft and is retained on the shaft by an interference fit.

Claim 21 (Previously Amended)

The valve assembly of claim 20 wherein the shaft has a groove formed therein and the cam body has a throughbore and a tab extending into the throughbore with the tab constructed and arranged to be received in the groove when the cam body is fully received on the shaft.

Claim 22 (Previously Amended)

The valve assembly of claim 14 wherein the shaft has a portion with a non-circular cross-section constructed and arranged to be received in a complimentary non-circular recess in the cam body to prevent relative rotation between the shaft and the cam body.

Claim 23 (Currently Amended)

A valve assembly comprising:

a carburetor body with a mixing passage, and a pair of coaxial bores on opposite sides of the mixing passage and extending substantially transversely to the longitudinal axis of the mixing passage;

a polymeric valve shaft extending transversely through the mixing passage, journalled for rotation in the bores, and having a slot therethrough between its ends;

a valve head received in the mixing passage, disposed in the slot and carried by the shaft for rotation in unison with the shaft so that rotation of the shaft changes the orientation of the valve head relative to the mixing passage to control fluid flow through the mixing passage; and

the length of the slot through the shaft being greater than the width of the portion of the valve head disposed in the slot of the shaft and greater than the width of the mixing passage at the location of the shaft in the mixing passage so that the valve head is movable axially relative to the shaft and **movable** transversely relative to **the shaft and** the mixing passage to center the valve head in the mixing passage.

Claim 24 (Currently Amended)

[The valve assembly of claim 23 wherein]

A valve assembly comprising:

a carburetor body with a mixing passage, and a pair of coaxial bores on opposite sides of the mixing passage and extending substantially transversely to the longitudinal axis of the mixing passage;

a polymeric valve shaft extending transversely through the mixing passage, journalled for rotation in the bores, and having a slot therethrough between its ends;

a valve head received in the mixing passage, disposed in the slot and carried by the shaft for rotation in unison with the shaft so that rotation of the shaft changes the orientation of the valve head relative to the mixing passage to control fluid flow through the mixing passage;

the length of the slot through the shaft being greater than the width of the portion of the valve head disposed in the slot of the shaft and greater than the width of the mixing passage at the location of the shaft in the mixing passage so that the valve head is movable axially relative to the shaft and movable transversely relative to the shaft and the mixing passage to center the valve head in the mixing passage, and

the valve head also comprises at least two spaced-apart stops with at least one stop disposed on each of opposite sides of the shaft with the distance between the stops on opposed sides of the shaft being greater than the portion of the shaft received between the stops so that the stops limit the extent to which the valve head can move transversely to the shaft and the valve head can shift transversely to the axis of the shaft to center the valve head in the mixing passage when the shaft is rotated to cause the valve head to at least substantially close the mixing passage.